



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,195

09/18/2006

Raymond Yeung

PU040045

7443

24498 7590 01/28/2010

Robert D. Shedd, Patent Operations  
THOMSON Licensing LLC  
P.O. Box 5312  
Princeton, NJ 08543-5312

EXAMINER

ALAVI, AMIR

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

01/28/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,195	<b>Applicant(s)</b> YEUNG, RAYMOND	
	<b>Examiner</b> Amir Alavi	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 9-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060918</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Priority**

- Acknowledgment is made of applicant's claim for foreign priority based on an application filed in European Patent Office on 19 March 2004. It is noted, however, that applicant has not filed a certified copy of the Priority application as required by 35 U.S.C. 119(b).

### **Specification**

- Applicant is reminded of the proper language and format for an abstract of the disclosure.
- The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.
- The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### **Election/Restrictions**

- Applicant's election with traverse of claims 1-13 in the reply filed on 16 November 2009 is acknowledged.
- The traversal is on the grounds that claims do not differ significantly. This is not found persuasive because, Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply: (a) the inventions have acquired a separate status in the art in view of their different classification; (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries); (d) the prior art applicable to one invention would not likely be applicable to another invention;
- The requirement is still deemed proper and is therefore made **FINAL**.

- Claims 9-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Groups II & III, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 16 November 2009.

### **Claim Rejections - 35 USC § 102**

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- *Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Spaulding et al. (USPN 6,243,133 B1), hereinafter, "Spaulding".*

Regarding claim 1, Spaulding recites, an image capture device for capturing a scene and for providing first color image data representative thereof (Please note, Abstract of the invention also, figure 5, element 50), a color transformer coupled to the image capture device for transforming the first color image data to second color image data (Please note, Abstract of the invention also, figure 5, element 52), a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data (Please note, Abstract of the invention also, figure 5, element 58); the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values (Please note, column 8, lines 17-25. As indicated Although FIG. 6 shows an example of one type of color transformation that can be used to compute standard color space values as a function of the input color values, it should be recognized that many other types of color transformations could also be used. For example, more complex models of the digital imaging device could be used that involve higher-order polynomial models, or multiple sets of look-up tables and matrices. Alternatively, the color transformation could be implemented using a multi-dimensional look-up table with tri-linear interpolation).

Regarding claim 6, Spaulding recites, wherein the processor is comprised by a  $3 \times 3$  matrix operation (Please note, column 10, lines 12-25. As indicated depending on the color reproduction aims, and the complexity of the image processor used to apply the color correction block, a variety of forms of color correction transformations may be used. The simplest types of color correction transformations typically involve a color correction matrix applied to the linear input color space values followed by a nonlinear encoding function. In other cases three-dimensional look-up tables, or color management transformations could be used).

### **Claim Rejections - 35 USC § 103**

- obviousness rejections set forth in this Office action: The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- *Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaulding et al. (USPN 6,243,133 B1), hereinafter, "Spaulding".*

Regarding claims 6-7, Spaulding recites, an image capture device for capturing a scene and for providing first color image data representative thereof (Please note, Abstract of the invention also, figure 5, element 50), a color transformer coupled to the image capture device for transforming the first color image data to second color image data (Please note, Abstract of the invention also, figure 5, element 52), a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data (Please note, Abstract of the invention also, figure 5, element 58); the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-



computed values (Please note, column 8, lines 17-25. As indicated Although FIG. 6 shows an example of one type of color transformation that can be used to compute standard color space values as a function of the input color values, it should be recognized that many other types of color transformations could also be used. For example, more complex models of the digital imaging device could be used that involve higher-order polynomial models, or multiple sets of look-up tables and matrices. Alternatively, the color transformation could be implemented using a multi-dimensional look-up table with tri-linear interpolation).

Spaulding does not recite expressly, wherein first display device characteristics differ from second display device characteristics.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to design wherein first display device characteristics differ from second display device characteristics. Applicant has not disclosed that such design provides an advantage, is used for a particular purpose or solves a stated problem.

One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well wherein first display device characteristics differ from second display device characteristics because it would provide desirable output and resolution.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Spaulding's with first display device characteristics differ from second display device characteristics to obtain the invention as specified in claims 6-7.

## Claim Rejections - 35 USC § 102

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- *Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Cawley (USPN 5,568,596).*

Regarding claim 1, Cawley recites, an image capture device for capturing a scene and for providing first color image data representative thereof, a color transformer coupled to the image capture device for transforming the first color image data to second color image data, a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data; the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values (Please note,

Art Unit: 2624

figure 6, also, Abstract of the invention. As indicated a color transform matrix is provided for rotating on a pixel-by-pixel basis the first color format data (RGB) into data in a second color format (NPQ) selected such that one of the colors thereof corresponds to the color of the at least one color separation. A look-up table (15) determines from the most significant parts of the data from the rotator (14) a range of color values in the second color format which includes the value of the color separation pixel).

- *Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cawley (USPN 5,568,596).*

Regarding claims 6-7, Cawley recites, an image capture device for capturing a scene and for providing first color image data representative thereof, a color transformer coupled to the image capture device for transforming the first color image data to second color image data, a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data; the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values (Please note, figure 6, also, Abstract of the invention. As indicated a color transform matrix is provided for rotating on a pixel-by-pixel basis the first color format data (RGB)

Art Unit: 2624

into data in a second color format (NPQ) selected such that one of the colors thereof corresponds to the color of the at least one color separation. A look-up table (15) determines from the most significant parts of the data from the rotator (14) a range of color values in the second color format which includes the value of the color separation pixel).

Cawley does not recite expressly, wherein first display device characteristics differ from second display device characteristics.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to design wherein, first display device characteristics differ from second display device characteristics. Applicant has not disclosed that such design provides an advantage, is used for a particular purpose or solves a stated problem.

One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well wherein first display device characteristics differ from second display device characteristics because it would provide desirable output and resolution.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Cawley's with first display device characteristics differ from second display device characteristics to obtain the invention as specified in claims 6-7.

### **Allowable Subject Matter**

- Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- The following is a statement of reasons for the indication of allowable subject matter: None of the Prior Art disclose or reasonable suggest, wherein said color transformer is further comprised by operating on the first color image data (R,G,B) so as to provide second color image data (R'G'B') in accordance with the relationships:

$$R' = M_{rr} * L_r(R) + M_{rg} * L_g(G) + M_{rb} * L_b(B)$$

$$G' = M_{gr} * L_r(R) + M_{gg} * L_g(G) + M_{gb} * L_b(B)$$

$B' = M_{br} * L_r(R) + M_{bg} * L_g(G) + M_{bb} * L_b(B)$  wherein R is a red value of said first color image, G is a green color value of said first color image, B is a blue color value of said first color image, M is a matrix operation and L is a look up table operation carried out upon red (R), green (G) and blue (B)..

## Examiner's Note

- The referenced citations made in the rejections above are intended to exemplify areas in the prior art documents in which the Examiner believed are the most relevant to the claimed subject matter.
- However, it is incumbent upon the Applicant to analyze the Prior Art documents in their entirety since other areas of the documents may be relied upon at a later time to substantiate Examiner's rationale of record.
- A Prior Art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the Prior Art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed ...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Art Unit: 2624

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amir Alavi whose telephone number is 571-272-7386. The examiner can normally be reached on Mon-Friday. 8:30 am thru 5:00pm.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Art Unit: 2624

- Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amir Alavi/  
Primary Examiner, Art Unit 2624  
Monday, January 25, 2010